AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Clean Water Act as amended, (33 U.S.C. §§1251 et seq.; the "CWA"), and the Massachusetts Clean Waters Act, as amended, (M.G.L. Chap. 21, §§26-53),

L.S. Starrett Company

is authorized to discharge from the facility located at

L.S. Starrett Company
121 Crescent Street
Athol, Massachusetts 01331

to the receiving water(s) named

Millers River (MA35-04)

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective **on the date of signature.**

This permit and the authorization to discharge expire at midnight, five (5) years from the last day of the month preceding the effective date.

This permit supersedes the permit issued on February 10, 2004.

This permit consists of 11 pages in Part I including effluent limitations, monitoring requirements, and state permit conditions, Attachment A, Freshwater Acute Toxicity Test Protocol and 25 pages in Part II including Standard Conditions.

Signed this 6th day of February, 2009

/S/ Signature on File

Stephen S. Perkins, Director
Office of Ecosystem Protection
Environmental Protection Agency
Boston, MA

Glenn Haas, Director
Division of Watershed Management
Department of Environmental Protection
Commonwealth of Massachusetts
Boston, MA

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge **treated electroplating process wastewater** from **outfall 002** to the Millers River. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristic	Units	Discharge Limitation		Monitoring Requirement[1]	
		Average Monthly	Maximum Daily	Measurement Frequency	Sample Type
Flow	GPD	25,000	30,000	Continuous	Recorder
pH[2]	s.u.	6.5-8.3 range (See Part I.A.4.b Page 7)		Continuous	Recorder
TSS	mg/l	20	30	2 / Month	Composite[3]
Oil and Grease	mg/l	15	15	2 / Month	Grab
Cyanide, Total	mg/l	0.50	1.0	2 / Month	Grab
Cyanide, Amenable	mg/l	0.05	0.1	2 / Month	Grab
Chromium, Total	mg/l	0.50	1.0	2 / Month	Composite[3]
Chromium, Hexavalent (as Cr)	mg/l	0.05	0.1	2 / Month	Grab
Copper, Total	mg/l	0.79	1.0	2 / Month	Composite[3]
Nickel, Total	mg/l	2.38	3.0	2 / Month	Composite[3]
Zinc, Total	mg/l	1.48	2.0	2 / Month	Composite[3]
Aluminum, Total	mg/l	1.0	2.0	2 / Month	Composite[3]
Chlorine, Total Residual	mg/l	0.7	1.0	1 / Month	Grab
Lead, Total	mg/l	0.119	0.69	1 / Quarter	Composite[3]

PART I.A. (continued)

Effluent Characteristic	Units	Discharge Limitation		Monitoring Requirement[1]	
		Average Monthly	Maximum Daily	Measurement Frequency	Sample Type
Silver, Total	mg/l	0.026	0.082	1 / Quarter	Composite[3]
Cadmium, Total	mg/l	0.068	0.178	1 / Quarter	Composite[3]
Total Toxic Organics	mg/l	-	2.13 (See Part I.B.)	1 / Quarter	Grab
Trichloroethylene	mg/l	-	Report	1 / Quarter	Grab
Whole Effluent Toxicity (WET)					
LC_{50} [4, 5, 6]	%	*****	>50	1 / Year	Composite[3]
Hardness	mg/l	*****	Report	1 / Year	Composite[3]
Alkalinity	mg/l	*****	Report	1 / Year	Composite[3]
pH	s.u.	*****	Report	1 / Year	Composite[3]
Specific Conductance	µmhos/cm	*****	Report	1 / Year	Composite[3]
Total Solids	mg/l	*****	Report	1 / Year	Composite[3]
Ammonia	mg/l	*****	Report	1 / Year	Composite[3]
Total Organic Carbon	mg/l	*****	Report	1 / Year	Composite[3]
Total Residual Chlorine	mg/l	*****	Report	1 / Year	Composite[3]
Dissolved Oxygen	mg/l	*****	Report	1 / Year	Composite[3]
Total Cadmium	mg/l	*****	Report	1 / Year	Composite[3]
Total Chromium	mg/l	*****	Report	1 / Year	Composite[3]
Total Lead	mg/l	*****	Report	1 / Year	Composite[3]
Total Copper	mg/l	*****	Report	1 / Year	Composite[3]
Total Zinc	mg/l	*****	Report	1 / Year	Composite[3]
Total Nickel	mg/l	*****	Report	1 / Year	Composite[3]
Total Aluminum	mg/l	*****	Report	1 / Year	Composite[3]
Total Magnesium	mg/l	*****	Report	1 / Year	Composite[3]
Total Calcium	mg/l	*****	Report	1 / Year	Composite[3]

Footnotes:

1. Samples taken in compliance with the monitoring requirements specified above shall be taken after all treatment has been completed and before discharge to the Millers River.

2. Required for State Certification

3. A composite sample shall consist of a minimum of eight grab samples collected at equal intervals over a working day and combined proportional to flow, or a sample continuously collected proportionally to flow over the same time period.

4. The LC_{50} is the concentration of effluent which causes mortality to 50% of the test organisms. Therefore, a 50% limit means that a sample of 50% effluent shall cause no more than a 50% mortality rate.

5. The permittee shall conduct acute toxicity tests once (1) per year using using the daphnid, Ceriodaphnia dubia. Toxicity test samples shall be collected during the month of October. The test results shall be submitted by the last day of the month following the completion of the test. The tests must be performed in accordance with test procedures and protocols specified in **Attachment A** of this permit.

Test Month	**Submit Results By:**	**Test Species**	**Acute Limit LC_{50}**
October	November 30th	Daphnid See Attachment A	>50%

6. If toxicity test(s) using receiving water as diluent show the receiving water to be toxic or unreliable, the permittee shall follow procedures outlined in **Attachment A**, Section IV., DILUTION WATER in order to obtain permission to use alternate dilution water.

   In lieu of individual approvals for alternate dilution water required in **Attachment A**, EPA-New England has developed a Self-Implementing Alternative Dilution Water Guidance document (called "Guidance Document") which may be used to obtain automatic approval of alternate dilution water, including the appropriate species for use with that water. If this Guidance document is revoked, the permittee shall revert to obtaining approval as outlined in **Attachment A**. The "Guidance Document" is included in Attachment G of the *NPDES Permit Program Instructions for the Discharge Monitoring (DMR) Forms* available at http://www.epa.gov/region1/enforcementandassistance/dmr.html and is not intended as a direct attachment to this permit.

PART I.A. (continued)

2. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge **electroplating process wastewater treated with cyanide destruction** from **Outfall 003** to the Millers River via Outfall 002**.** Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristic	Units	Discharge Limitation		Monitoring Requirement[1]	
		Average Monthly	Maximum Daily	Measurement Frequency	Sample Type
Flow	MGD	Report	Report	2 / Month	Estimate
Cyanide, Total	mg/l	0.65	1.2	2 / Month	Grab

1. Samples taken in compliance with the monitoring requirements specified above shall be taken after cyanide treatment and before dilution with other waste streams, pursuant to 40 C.F.R. Part 433.12(c)

PART I.A. (continued)

3. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge **once-through non-contact cooling water** from **outfalls 004[1], 005[1], and 007** to the Millers River**.** Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristic	Units	Discharge Limitation		Monitoring Requirement	
		Average Monthly	Maximum Daily[2]	Measurement Frequency	Sample Type
Flow Outfall 004 Outfall 005 Outfall 007	MGD	 Report Report Report	 7,200 20,000 98,200	 1 / Day 1 / Day Continuous	 Estimate Estimate Recorder
pH[3] Outfall 004 Outfall 005 Outfall 007	s.u.	6.5-8.3 range (See Part I.A.4.b Page 7)		1 / Week	Grab
Temperature Outfall 004 Outfall 005 Outfall 007	mg/l	*****	83	1 / Week	Grab

Footnotes:

1. Outfalls 004 and 005 are for emergency discharges and sampling is only required when these outfalls are in use. If no discharge event occurs, enter a No Data Indicator Code (NODI) '9' for that month.
2. The permittee shall also report the total sum of the flow from the above outfalls, which is not to exceed 98,200 gpd of NCCW.
3. Required for State Certification

Part I.A (continued)

4.

a. The discharge shall not cause a violation of the water quality standards of the receiving waters which have been or may be promulgated.

b. The pH of the effluent shall be neither less than 6.5 nor greater than 8.3 at any time, unless these values are exceeded due to natural causes.

c. The discharge shall not cause an objectionable discoloration of the receiving waters.

d. The effluent shall contain neither visible oil sheen, foam, nor floating solids at any time.

e. The use of biocides or other chemical additives in non-contact cooling water is prohibited.

f. The discharges shall not contain materials in concentrations or combinations which are hazardous or toxic to human health, aquatic life of the receiving water or which would impair the uses designated by its classification.

g. The discharges shall not impart color, taste, turbidity, toxicity, radioactivity or other properties which cause those waters to be unsuitable for the designated uses and characteristics ascribed to their use.

h. Notwithstanding specific conditions of this permit, the effluent must not lower the quality of any classified body of water below such classification, or lower the existing quality of any body of water if the existing quality is higher than the classification.

i. The results of sampling for any parameter above its required frequency must also be reported, in accordance with 40 CFR § 122.41(l)(4)(ii).

j. EPA may modify this permit in accordance with EPA regulations in 40 CFR §122.62 and §122.63 to incorporate more stringent effluent limitations, increase the frequency of analyses, or impose additional sampling and analytical requirements.

5. This permit shall be modified, or revoked and reissued to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:

a. contains different conditions or is otherwise more stringent than any effluent limitation in this permit; or

b. controls any pollutant not limited by this permit.

If the permit is modified or reissued, it shall be revised to reflect all currently applicable requirements of the Act.

6. All existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe (40 CFR §122.42):

   a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

      (i) One hundred micrograms per liter (100 μg/l);

      (ii) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR §122.21(g)(7); or

      (iii) Any other notification level established by the Director in accordance with 40 CFR §122.44(f) and Massachusetts regulations.

   b. That any activity has occurred or will occur which would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

      (i) Five hundred micrograms per liter (500 μg/l);

      (ii) One milligram per liter (1 mg/l) for antimony;

      (iii) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR §122.21(g)(7); or

      (iv) Any other notification level established by the Director in accordance with 40 CFR §122.44(f) and Massachusetts regulations.

   c. That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the permit application.

7. Toxics Control

   a. The permittee shall not discharge any pollutant or combination of pollutants in toxic amounts.

   b. Any toxic components of the effluent shall not result in any demonstrable harm to aquatic life or violate any state or federal water quality standard which has been or may be promulgated. Upon promulgation of any such standard, this permit may be revised or amended in accordance with such standards.

8. Numerical Effluent Limitations for Toxicants

EPA or MassDEP may use the results of the toxicity tests and chemical analyses conducted pursuant to this permit, as well as national water quality criteria developed pursuant to Section 304(a)(1) of the Clean Water Act (CWA), state water quality criteria, and any other appropriate information or data, to develop numerical effluent limitations for any pollutants, including but not limited to those pollutants listed in Appendix D of 40 CFR Part 122.

B. Total Toxic Organics (TTO)

The term "Total Toxic Organics" (TTO) is the summation of all quantifiable values greater than 0.01 milligrams per liter (mg/1) for the following toxic organics (40 CFR §433.11):

Acenaphthene
Acrolein
Acrylonitrile
Benzene
Benzidine
Carbon tetrachloride (tetrachloromethane)
Chlorobenzene
1,2,4-Trichlorobenzene
Hexachlorobenzene
1,2,-Dichloroethane
1,1,1-Trichloroethane
Hexachloroethane
1,1-Dichloroethane
1,1,2-Trichloroethane
1,1,2,2-Tetrachloroethane
Chloroethane
Bis (2-chloroethyl) ether
2-Chloroethyl vinyl ether (mixed)
2-Chloronaphthalene
2,4,6-Trichlorophenol
Parachlorometa cresol
Chloroform (trichloromethane)
2-Chlorophenol
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
3,3-Dichlorobenzidine
1,1-Dichloroethylene
1,2-Trans-dichloroethylene
2,4-Dichlorophenol
1,2-Dichloropropane
1,3-Dichloropropylene (1,3-dichloropropene)
2,4-Dimethylphenol
2,4-Dinitrotoluene
2,6-Dinitrotoluene
1,2-Diphenylhydrazine
Ethylbenzene
Fluoranthene
4-Chlorophenyl phenyl ether
4-Bromophenyl phenyl ether
Bis (2-chloroisopropyl) ether
Bis (2-chloroethoxy) methane
Methylene chloride (dichloromethane)
Methyl chloride (chloromethane)
Methyl bromide (bromomethane)
Bromoform (tribromomethane)
Dichlorobromomethane
Chlorodibromomethane
Hexachlorobutadiene
Hexachlorocyclopentadiene
Isophorone
Naphthalene
Nitrobenzene
2-Nitrophenol
4-Nitrophenol
2,4-Dinitrophenol
4,6-Dinitro-o-cresol
N-nitrosodimethylamine
N-nitrosodiphenylamine
N-nitrosodi-n-propylamine
Pentachlorophenol
Phenol
Bis (2-ethylhexyl) phthalate
Butyl benzyl phthalate
Di-n-butyl phthalate
Di-n-octyl phthalate
Diethyl phthalate
Dimethyl phthalate
1,2-Benzanthracene (benzo(a)anthracene)
Benzo(a)pyrene (3,4-benzopyrene)
3,4-Benzofluoranthene (benzo(b)fluoranthene)
11,12-Benzofluoranthene (benzo(k)fluoranthene)
Chrysene
Acenaphthylene
Anthracene
1,12-Benzoperylene (benzo(ghi)perylene)
Fluorene
Phenanthrene
1,2,5,6-Dibenzanthracene (dibenzo(a,h)anthracene)
Indeno(1,2,3-cd) pyrene (2,3-o-phenlene pyrene)
Pyrene
Tetrachloroethylene
Toluene
Trichloroethylene
Vinyl chloride (chloroethylene)
Aldrin
Dieldrin
Chlordane (technical mixture and metabolites)
4,4-DDT
4,4-DDE (p,p-DDX)
4,4-DDD (p,p-TDE)
Alpha-endosulfan
Beta-endosulfan
Endosulfan sulfate
Endrin
Endrin aldehyde
Heptachlor
Heptachlor epoxide (BHC-hexachlorocyclohexane)
Alpha-BHC
Beta-BHC
Gamma-BHC
Delta-BHC
(PCB-polychlorinated biphenyls)
PCB-1242 (Arochlor 1242)

PCB-1254 (Arochlor 1254)	PCB-1248 (Arochlor 1248)	Toxaphene
PCB-1221 (Arochlor 1221)	PCB-1260 (Arochlor 1260)	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) [*sic*]
PCB-1232 (Arochlor 1232)	PCB-1016 (Arochlor 1016)	

Pursuant to 40 CFR Part 433.12, in lieu of monitoring for TTO the permittee may submit to EPA the following certification: "Based on my inquiry of the person or persons directly responsible for managing compliance with the permit limitations for total toxic organics (TTO), I certify that, to the best of my knowledge and belief, no dumping of concentrated toxic organics into the wastewater has occurred since filing of the last discharge monitoring report. I further certify that this facility is implementing the solvent management plan submitted to the permitting authority."

If the permittee submits the certification described above, the permittee must also submit to EPA a solvent management plan that specifies, to the satisfaction of the permitting authority, the toxic organic compounds used; the method of disposal used instead of dumping, such as reclamation, contract hauling, or incineration; and the procedures for ensuring that toxic organics do not routinely spill or leak into the wastewater. Pursuant to 40 CFR Part 433.12, this plan shall become a part of and an enforceable provision of this permit.

C. UNAUTHORIZED DISCHARGES

This permit authorizes the permittee to discharge only in accordance with the terms and conditions of this permit and only from the outfalls listed in Part I.A.1-3 of this permit. Discharges of wastewater from any other point sources which are not authorized by this permit or other NPDES permits shall be reported in accordance with Section D.1.e. (1) of Part II – Standard Conditions of this permit (Twenty-four hour reporting).

D. MONITORING AND REPORTING

Monitoring results obtained during each calendar month shall be summarized and reported on Discharge Monitoring Report Form(s) postmarked no later than the 15th day of the following month. Other monitoring results shall be submitted as required by this permit.

Signed and dated originals of these, and all other reports required herein, with the exception of WET tests results for the Springfield MassDEP office, shall be submitted to the Director and the State at the following addresses:

Environmental Protection Agency
Water Technical Unit (SEW)
P.O. Box 8127
Boston, Massachusetts 02114

Massachusetts Department of Environmental Protection
Bureau of Waste Prevention
Western Regional Office
436 Dwight Street
Springfield, MA 01103

In addition, copies of all Discharge Monitoring Reports and whole effluent toxicity test results shall also be submitted to the State at the following address:

Massachusetts Department of Environmental Protection
Division of Watershed Management
Surface Water Discharge Permit Program
627 Main Street, 2nd Floor
Worcester, MA 01608

E. STATE PERMIT CONDITIONS

This Discharge Permit is issued jointly by the U. S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (DEP) under Federal and State law, respectively. As such, all the terms and conditions of this permit are hereby incorporated into and constitute a discharge permit issued by the Commissioner of the MassDEP pursuant to M.G.L. Chap. 21, §43.

Each Agency shall have the independent right to enforce the terms and conditions of this permit. Any modification, suspension or revocation of this permit shall be effective only with respect to the Agency taking such action, and shall not affect the validity or status of this permit as issued by the other Agency, unless and until each Agency has concurred in writing with such modification, suspension or revocation. In the event any portion of this permit is declared invalid, illegal or otherwise issued in violation of State law, such permit shall remain in full force and effect under Federal law as an NPDES Permit issued by the U.S. Environmental Protection Agency. In the event this permit is declared invalid, illegal or otherwise issued in violation of Federal law, this permit shall remain in full force and effect under State law as a permit issued by the Commonwealth of Massachusetts.

RESPONSE TO COMMENTS
REGARDING THE REISSUANCE OF THE FOLLOWING NPDES PERMIT
L.S. STARRETT COMPANY MA0001350

Introduction:

The U.S. Environmental Protection Agency (EPA) solicited public comments from December 8, 2008 through January 6, 2009 on the draft National Pollution Discharge Elimination System (NPDES) permit to be issued to L.S. Starrett Company. During the public-notice (comment) period EPA-New England received comments from Mary Colligan of the Protected Resources Division of NOAA's National Marine Fisheries Service (NMFS PRD) and Andrea Donlon of the Connecticut River Watershed Council (CRWC).

In accordance with the provisions of 40 C.F.R. §124.17, this document presents EPA's responses to comments (RTC) received on the Draft NPDES Permit (MA0001350). EPA's decision-making for this permit has benefited from the comments submitted; however, the comments do not result in any changes to the final permit. The responses to the individual comments submitted by the aforementioned parties are included below. Pursuant to 40 CFR Part 124.15(b)(3), the permit shall become effective upon issuance because no comments requested a change in the draft permit. EPA did note several corrections to language in the draft permit; these are summarized below and included in the final permit.

Corrections

1. The phrase "…, and the fathead minnow, Pimephales promelas," has been deleted from Footnote 5 on Page 4.

2. Part I.A.2. on Page 5 was edited to read "treated with cyanide destruction" instead of "treated with cyanide deconstruction."

3. The zip code for the Western Regional Office of MassDEP, included on Page 10, was changed from 01608 to 01103.

Responses to Comments

Comment from NMFS PRD

Comment No. 1

No species listed as threatened or endangered are known to occur in the vicinity of the project site. As such, no further coordination with NMFS PRD is necessary.

Response to Comment No. 1

This comment is noted, but does not necessitate any change in the permit.

Comments from CWRC

Comment No. 2

The average monthly flow limit for outfall 002 has been reduced from 70,000 gallons per day (gpd) to 25,000 gpd, based on past performance. We support this change.

Response to Comment No. 2

This comment is noted, but does not necessitate any change in the permit.

Comment No. 3

An oil and grease limit has been established for outfall 002. We support this change.

Response to Comment No. 3

This comment is noted, but does not necessitate any change in the permit.

Comment No. 4

The average monthly limit for total cadmium for outfall 002 has been reduced from 0.083 mg/L to 0.068 mg/L. We support this change.

Response to Comment No. 4

This comment is noted, but does not necessitate any change in the permit.

Comment No. 5

The frequency of whole effluent toxicity testing for outfall 002 has been changed from twice a year to once a year. Given the nature of this facility and the chemicals it discharges, CRWC would prefer that a twice yearly WET testing schedule be maintained. However, we recognize that reducing the frequency is consistent with EPA's practice of reducing monitoring burdens on facilities which have a history of compliance. We appreciate the explanation on page 11 of the Fact Sheet for the choice of October sampling rather than July.

Response to Comment No. 5

EPA agrees that the history of WET test compliance by L.S. Starrett warrants a reduction in monitoring frequency. The final permit retains the requirement, from the draft permit, to test for whole effluent toxicity from Outfall 002 at a frequency of once (1) per year during the month of October.

Comment No. 6

A flow and total cyanide limit has been established for outfall 003, which is an internal discharge to outfall 002. This is a new set of limits, and we support this requirement.

Response to Comment No. 6

This comment is noted, but does not necessitate any change in the permit.

Comment No. 7

There is a slight change in the temperature discharge limits and the addition of pH limits for outfalls 004 and 005. CRWC supports both changes.

Response to Comment No. 7

This comment is noted, but does not necessitate any change in the permit.

Comment No. 8

The Fact Sheet and Attachments were very thorough and we appreciate the information provided. In particular, the data summarie [sic] at the bottom of the tables in Attachment B were very helpful.

Response to Comment No. 8

This comment is noted, but does not necessitate any change in the permit.